

ENCYCLOPÉDIE OU *DICIONNAIRE* RAISONNÉ
DES SCIENCES, DES ARTS ET DES MÉTIERS

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PARI

WAGER, (*analysis of Games.*) when two players A , B , play the one against the other, & that the expectation of player A is to that of player B in ratio of m to n , the *wager* for player A is also to the *wager* for player B in ratio of m to n ; or the number m is nothing other than the number of cases which could make player A win, & n is the number of the cases which could make B win. For example, if a player A wishes to produce 12 with two dice, one has $m = 1$, & $n = 35$, because there is only one case which could bring 12, & 35 which will bring another thing. See **Dé**. Therefore in order to wager even, that is to say with an equal advantage, following the ordinary rules of the games, it is necessary that the stake of player B be to that of player A as 35 is to 1.

Similarly, if one wagers to produce in six throws a doublet with two dice, it is clear that the number of the possible throws is 36^6 , & that the number of throws where there is no doublet 30^6 ; whence it follows that the *wager* must be as $36^6 - 30^6$, that is to say, as $6^6 - 5^6$ is to 6^6 .

Moreover, these rules must be modified in certain cases, where the probability of winning is very small, & that of losing very great. On which see the article **Jeu**. (*M. d'Alembert*)

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